Data Questions
EPA'S IRIS Assessments
(GAO Job Code: 361203)
Sent to EPA Monday, May 23, 2011

1) Is the "Actual Key Dates" spreadsheet a living document, or is it updated regularly?

   Response: Updated regularly.

2) Why do the Start Dates provided not match those previously agreed to by GAO and EPA?

   Response: The start dates in the August 3, 2010, and the May 6, 2011, tables appear to match. GAO will provide a list of start dates that do not match.

3) For the 31 chemicals listed on Document 4, there are no dates post-May 2009. The status of each is highlighted in gray in the document (e.g., Steps 1-4).

   a) Why are there not post-May 2009 Start Dates (drafting step) for these 31 chemicals?
   Response: There are "pick up dates" for chemicals that moved from Table 2 to Table 1. Other assessments passed no milestones after May 2009. See response to #3e.

   b) For those chemicals further along in the process, why are there not post-May 2009 dates for when the relevant steps began?

   c) **Response:** See response to #3e.

   d) Uranium and Copper are listed in the Current Status data as being in Step 3 (Interagency Review), but there are no new process dates for these assessments prior to this step and no new process start date for this step. Have these already begun the interagency review step, and if so, what is the review initiation date?

      Response: Uranium began interagency review on May 4, 2009. Copper began interagency review on February 4, 2008. Information on individual assessments is provided under 3e.

      i) How were these assessments "cut" at this step? **Response:** Unclear what this means.

      ii) Did negotiations with the interagency group take place to make these determinations?
      Response: EPA did not negotiate with the interagency group on any determinations as to how to proceed through the process with these assessments. The interagency group provided scientific comments, and EPA discussed the comments with the reviewers. Both assessments (copper and uranium) have difficult scientific issues that EPA has been working to resolve. In both cases, resolution of the issues will lead to a new assessment, which EPA intends to take through the review process again. More information is provided below in the response to 3e.

   e) Same questions for Chloroform & MTBE (Step 2 – Agency Review), DCB-1-2,3,4 & Platinum & Ethylene Oxide & Tetrahydrofuran & PERC (Steps 4 & 5)?

      Response: See #3e for responses to a & b. Question c doesn't apply because these assessments are not currently in interagency review.

f) We need the post-May 2009 Start Dates and relevant step dates for all 31 of these assessments. Not all we have post May 2009 start dates. The discussion below provides these dates where there was an actual start or pick up after May 2009. Some assessment, like the phthalates started before May 2009 and work has been continuous with no breaks.

Response: It's not clear what is meant in the question by post-May 2009 start dates. EPA has provided post-May 21, 2009, "pick-up" dates for Table 2 chemicals that were moved to Table 1 as described below.

Since the current IRIS process went into place on May 21, 2009, NCEA has been working to reduce a backlog of assessments that have been under development and to complete assessments that are of high priority to EPA Program Offices or Regions. Throughout the past two years, the IRIS process has been evolving, and various tasks and work products have been added to the process, increasing the level of effort for each assessment and the amount of management review time. NCEA has consulted with agency and interagency reviewers on how to improve the process and has committed to additional activities to increase transparency and make the reviews more efficient for the agency and interagency reviewers. As a result, NCEA has found it necessary to revisit priorities and reassign staff to ensure that the highest priorities are being met. In addition, some assessments have been delayed because of issues that must be resolved at higher levels in EPA. The list below provides the requested information for each of the 31 chemicals.

In the terminology used below, Table 1 and Table 2 refer to categorizations of IRIS assessments that were made in 2008 when NCEA decided to focus its resources on assessments in agency review or beyond and on a few other high priority assessments (Table 1 assessments). Table 2 assessments were assessments still in draft development. Staff members were reassigned to work on Table 1 chemicals. However, staff continued to put a lower level of effort into Table 2 chemicals when they had time. In November 2010, after several Table 1 assessments had been completed, some of the Table 2 assessments were fully staffed and moved to Table 1. The pick-up date refers to the date when the assessment was fully staffed and moving forward with a schedule reflecting the May 21, 2009, process.

- Ammonia should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.
- Arsenic (inorganic) noncancer. This assessment went to Agency Review (step 2) along with the arsenic cancer assessment in 2005. The EPA Office of Water, which is the lead office on the IRIS arsenic assessment, decided that the cancer assessment was of higher priority and put the noncancer part of the assessment on hold while moving forward with the cancer assessment. The Office of Water has now taken up the noncancer assessment and is working on a draft for Agency Review. Since the draft has been substantially revised, the assessment will go through the complete process again. The pick- up date is May 12, 2009, when a task order was put into place.
- The peer review meeting for beryllium was held on July 16, 2008. The peer reviewers suggested a number of quantitative approaches to improving the inhalation unit risk (IUR) estimate. NCEA investigated these approaches but found that none could be implemented because of limitations in the epidemiological data and analyses available to EPA at the time. Throughout the development and review of the beryllium assessment, EPA has been

discussing with NIOSH a reanalysis of a NIOSH epidemiology study of beryllium and cancer that would support EPA's development of an IUR. In March 2010, NIOSH produced a new analysis of an occupational cohort exposed to beryllium that supports development of an IUR. Based on this analysis, NCEA is revising the beryllium assessment. Because the assessment will be completely revised and is essentially a new draft, NCEA intends to repeat the entire review process including a new external peer review and public comment period. The pick-up date is March 1, 2010, when the NIOSH study became available to EPA.

- Biphenyl should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.
- t-Butanol should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.
- Butyl benzyl phthalate is one of six phthalate esters that are part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09. There is no pick-up date after May 21, 2009.
- Cadmium should have a pickup date of 11/17/10. This is the date that the assessment was staffed and moved from Table 2 to Table 1.
- The chloroform assessment was originally led by EPA's Office of Water. The IRIS oral chloroform assessment, which was a higher priority for the Office of Water than the inhalation assessment, was completed in 2001. The inhalation assessment was eventually transferred to NCEA as the lead in 2007. NCEA expanded the assessment to include both the inhalation assessment and a reassessment of the oral assessment. The assessment has been through two rounds of Agency Review, with the last round occurring in September 2008. Since that time, complex issues related to the chloroform mechanism of action by both the oral and inhalation pathways have arisen. Only a limited number of NCEA staff that have the expertise to address the scientific issues. These staff members have been working on completing assessments including tetrachloroethylene and trichloroethylene, and we have been unable to resolve the issues without their input. We have recently staffed this assessment with a mode of action expert and are aiming for a release to agency review in July or August. The start date is 1/8/07. There is no pick-up date after May 21, 2009.
- The copper assessment began interagency review under the April 2008 process and transitioned into the 2009 process but has not completed interagency review. It is one of 2 transitional assessments of a total of 16, that have not moved forward from interagency review (7 have been completed – 1,1,2,2-tetrachloroethane, chloroprene, hydrogen cyanide, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, thallium, bromobenzene; 4 are scheduled for completion in FY11 -- inorganic arsenic cancer assessment, hexachloroethane, trichloroacetic acid, mirex; and 3 are moving forward after the agency removed the hold on assessments that used Ramazzini Institute data -- acrylonitrile, noncancer methanol assessment, and ETBE. The copper assessment has complex issues related to the fact that copper is an essential mineral that exhibits toxicity at levels close to the recommended daily allowance. This assessment has been delayed because EPA does not have a standard method for developing a quantitative assessment for essential minerals. NCEA is working with an outside expert to develop a method and a quantitative assessment for copper. When

completed, the copper assessment will be a new assessment, and NCEA intends to send it back though the entire review process. The pick-up date for copper is 5/25/11.

- DEHP is one of 6 phthalates that are part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09. There is no pick-up date after May 21, 2009.
- DBP is one of 6 phthalates that is part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09. There is no pick-up date after May 21, 2009.
- The assessment for dichlorobenzenes has complex issues that only a limited number of staff can address. Staff members have been working on completing assessments including tetrachloroethylene and trichloroethylene, and we have been unable to resolve these issues without their involvement. We have recently staffed this assessment and are aiming for a release to final Agency Review in Fall 2011. There are no start or pick up dates after May 21, 2009.
- DIBP is one of 6 phthalates that is part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09.
- DINP is one of 6 phthalates that is part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09.
- DPP is one of 6 phthalates that is part of EPA's cumulative phthalate assessment. Draft development for this complex assessment is taking longer than the standard period of less than one year. The start date is 3/31/09.
- ETBE completed external peer review in March 2010. Shortly after the peer review meeting, the National Toxicology Program informed EPA that an analysis of leukemias identified in a cancer bioassay conducted by the Ramazzini Foundation raised concerns about the data from that laboratory. Subsequently, EPA placed a hold on six IRIS assessments including ETBE that relied on Ramazzini Foundation data. Also in March 2010, the Japanese Petroleum Energy Center published a two-year bioassay that provided data that could support both cancer and noncancer quantitative assessments for ETBE. On April 11, 2011, EPA removed the hold on ETBE and announced to the public that EPA would not rely on Ramazzini data for the quantitative analysis. Consequently, EPA is analyzing the JPEC data and developing a new assessment. Because this will be a new assessment, the assessment will go through the complete review process including a new external peer review and public comment period. The new start date is 4/11/11. NOTE: Date of EPA press release announcing removal of hold.
- The ethylene oxide assessment was delayed because staff and management resources were diverted to other assessments including formaldehyde, trichloroethylene, and tetrachloroethylene. There is no start date after May 2009.
- Hexabromocyclododecane should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.

- Hexachlorobutadiene should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.
- The MTBE assessment has been through two rounds of agency review. The assessment was placed on hold because it relies on data from the Ramazzini Instiute. The new pickup date is 4/11/11.
- Nickel should have a pickup date of 11/17/10. This is the date that it was staffed and moved from Table 2 to Table 1.
- The platinum assessment was delayed because of concerns raised by the halogenated platinum industry that were addressed at higher levels in EPA. There are no milestone dates after May 21, 2009. The assessment is moving forward and is scheduled to go to interagency science discussion and final Agency Review in August 2011.
- Tetrachloroethylene was reviewed by the National Academy of Sciences. The peer review report was published in February 2010. Since that time, EPA has been revising the report to respond to the peer review comments. This is a major assessment with significant comments. Responses required extra time to develop. There is no milestone date after May 2009. Tetrachloroethylene is currently in the final Agency Review and interagency science discussion and is scheduled for completion in September 2011.
- The tetrahydrofuran assessment was originally led by EPA's Office of Pollution Prevention and Toxics. This assessment has complex issues that only a limited number of staff can address. Staff members have been working on completing assessments including tetrachloroethylene and trichloroethylene. We have recently staffed this assessment with a mode of action expert and are aiming for a release to final Agency Review and interagency science discussion in July 2011.
- 1,2,4- and 1,3,5-Trimethylbenzene should have pickup dates of 11/17/10. This is the date that these assessments were staffed and moved from Table 2 to Table 1.
- Uranium. Uranium began interagency review under the April 2008 process and transitioned into the 2009 process but has not completed interagency review. It is one of the two transitional assessment, of a total of 16, that has not moved forward (7 have been completed; 4 are scheduled for completion in FY11; and 3 are moving forward after the agency removed the hold on assessments using Ramazzini Institute data). This assessment has complex issues related to the fact that the RfD developed in the Agency and interagency review drafts was at or below background levels. The database was reevaluated based on comments received and a new RfD based on a different endpoint was developed. Since the assessment is essentially new it will go through the complete process again starting with a full Agency Review. There is no start date after May 2009.

4) For Cumulative Phthalates, why is there no Start Date listed?

Response: This is an oversight. The start date is 3/31/09.

5) The data shows Mirex entering the 2nd simultaneous interagency/EPA reviews on 4/8/2010 and holding an interagency meeting on 5/25/2010, but the Current Status data you recently sent shows Mirex in Step 4 (External Peer Review). According to recent correspondence, "EPA incorporated additional modeling efforts post peer review as a result we decided to conduct a letter peer review of some new modeling in the mirex assessment. The EPA Contractor is

assembling a group of reviewers. Assuming the review is favorable, the assessment will be posted in FY11." Will Mirex go through an additional simultaneous interagency/EPA review?
Response: NOTE: Not sure about this. I believe we said yes at the meeting.

a - Had the 2nd round of interagency/EPA reviews been completed before this additional peer review was initiated?

Response: Yes

b - The assessment appears to have been completed last summer, why did it not post before the recent desire for additional peer review?

Response: After the agency and interagency reviews are completed, the assessments go through a clearance procedure that involves briefings of NCEA and ORD management. Upon hearing of the significant changes that were made in the assessment in response to the peer review, the EPA management decided that another peer review was warranted.

i) Why did the new modeling go to peer review?

Response: It was decided that the changes were significant enough to warrant an additional peer review.

ii) When and by whom was the decision made to initiate the additional peer review?
Response: This decision was made at the ORD Assistant Administrator level.

6) Has ETBE restarted completely?

Response: See response to #3e.

7) Please explain the Arsenic and ETBE dates.

Response: See response to #3e.

8) For Naphthalene, why is the Start Date listed more recent than the Nov. Table 1 pick-up date?

NOTE: I don't know where the naphthalene start of 2-11-11 came from. The pick-up date is November 17, 2010.

9) For Urea, why did both Step 2 and Step 3 take so long?

Response: This was a Table 2 chemical that NCEA moved to Table 1 because it is a fairly simple assessment that would likely move quickly. It was delayed because management review focus was on other higher priority assessments we were trying to get out in that time frame such as formaldehyde and trichloroethylene.

10) For numerous chemicals, why did date values change from the initial source to the more recent updates?

Response: The table has been rechecked and an updated, corrected table has been provided.

11) For Trichloroacetic Acid, why does the Step 3 date of 8/18/09 have a question mark by it?

Response: The comment due date has been removed. EPA did not solicit comments for transitional chemicals such as trichloroacetic acid, because comments had already been received under the earlier interagency review process.

12) For Hydrogen Cyanide and Tetrahydrofuran, why are the Start Dates listed as 2002 and 2003, respectively, without greater precision?

Response: When we don't have a precise start date, we use the date the assessment first appeared on the agenda.

13) For Dioxin, why are all of the Step 2 and Step 3 dates identical?

Response: Dioxin wasn't in the IRIS process until it when to external peer review. Before that it had its own process that did not completely correspond to the steps in the IRIS process.

14) For Chlordecone, why is the date listed for the Step 3 interagency meeting identical to the Step 6B interagency meeting (despite the surrounding dates being years older)?

Response: This is a typographical error which has been corrected.

15) For 1,4-Dioxane (oral), the Listening Session date was announced in the FR Notice as 07/06/09. This was the date given in the first version of the Actual Key Dates table. Recent versions list the Listening Session as 6/24/09.

Response: The correct date for the listening session is 7/6/09.

16) For 1,2- and 1,3-DCB, why are the Start Dates for Step 4 listed as being in 2004 when all surrounding dates are 2005 and 2006?

Response: These assessments were started in 2002 under a different IRIS process referred to as the consensus review process in which the external peer review preceded the agency review. The process was changed in early 2003-04 for new assessments so that external review followed agency review, but older assessments continued to follow the consensus review process. Interagency review was phased in to the process on an informal basis starting around 2005.

The actual schedule is:
Release of assessments for peer review and public comment – Jan. 30, 2004
Peer review meeting – Feb. 12, 2004
End of public comment period – March 1, 2004
Begin agency consensus review – June 9, 2004
Begin interagency review – September 30, 2005
At this point, a new inhalation cancer assessment for 1,4-DCB had been incorporated based on new data. EPA decided to send the assessment to a focused peer review. The remaining schedule is for 1,4-DCB only.
Begin focused external peer review – July 11, 2006
End public comment period – October 17, 2006
Peer review meeting – November 3, 2006

17) For Copper, why is the Step 3 Start Date of 2/4/08 listed as the comment due date in the initial data source (footnote specifies Step 3 began 12/21/07)?
Response: [NOTE: Stan –The Margolies excel file gives a date of 12/21/07 for start of interagency review. 2/4-08 is indicated as the date the comments were received. I believe you changed the start of IAR to 2-4-08. Please check this.]

18 - We do not have Start Dates under the old process for n-Butanol, Diethyl phthalate, and PCBs (noncancer), but they first appeared on the IRIS Agenda in 2008, 2008, and 1998, respectively. What work was done on these 3 chemicals prior to May 2009 (e.g., lit searches, drafting, etc.)?

Response: The literature search for n-butanol was completed in October 2007. At that time no chemical manager had been assigned. The IRIS process at that time was to have a contractor conduct literature searches on all the FY2008 new starts and use the results to assign chemical managers and decide which assessments start first. A chemical manager was assigned in 2009, and the contractor work assignment for draft development went into place on 2/11/09. Chapters 1-4 were delivered 11/9/09. Limited work proceeded on PBPK modeling while the chemical manager was reassigned to Table 1 chemicals. n-Butanol was moved to Table 1 on 11/17/10 and entered Agency Review May 6, 2011.

The literature search for diethyl phthalate was also completed in October 2007. Chapters 1-4 of the Toxicological Review were drafted by a contractor and delivered to EPA in December 2007. No additional work was done until FY11.

19) Why are relevant drafts and comments not posted online for Asbestos (Libby), ETBE, Bromobenzene, Chloroprene, Hydrogen Cyanide, Tetrachlorothane, Thallium, Mirex, and Acrylonitrile?

Response: Only interagency comments received after May 21, 2009, are posted on the IRIS web site and on regulations.gov. Interagency drafts and comments are posted when the assessment is released for public comment (step 3 comments) and when the assessment is posted as final (step 6 comments). The Libby assessment has not yet been released to the public, so no comments are posted. Mirex comments will not be posted until the assessment is released as final. The acrylonitrile assessment had not been released when this question was submitted. The acrylonitrile assessment was released June 30, 2011, and interagency comments received after May 21, 2009, have been posted. The other assessments are all transitional assessments that were in interagency review on May 21, 2009. EPA received no interagency comments on any of these assessments after May 21, 2009.

20) How do you post drafts and comments online (separately) for Step 3 and Step 6B?
Response: NCEA posts interagency comments online when the draft is released for public comment (step 3 comments) and when the draft is becomes final (step 6 comments). Step 3 draft and comments are posted on the NCEA/IRIS website and on the federal docket (www.regultions.gov). The purpose of posting on the federal docket is to have a repository for the public to submit comments electronically where the comments can be viewed. The Step 6 comments are posted only on the NCEA/IRIS website.

What is the reasoning behind this posting approach?

Response: The IRIS process calls for the interagency comments to be made part of the public record. The reason for posting the comments is to increase the transparency of the IRIS process for the public.

How do you ensure that drafts and comments will remain accessible to the public?

Response: The comments are retained on the IRIS database under Recent Additions. NCEA is currently making revisions to the IRIS database that will allow users to access the interagency drafts and comments directly from the IRIS summary.

When are drafts and comments posted online (e.g., immediately when they are submitted by interagency reviewers, when drafts go to external peer review, when staff is available, etc.)?

Response: With rare exceptions, Step 3 draft and comments are posted on the IRIS website and on the federal docket the same day that the external review draft is released for public comment. Posting on the federal docket may lag a day or two depending on the workload of the EPA docket staff. The Step 6 draft and comments are posted on the IRIS website (but not on the docket) on the day the document is published or shortly after.